

# Reports

## Standard Operating Procedure

### Revision Log

Revision	Description of Change	Author	Effective Date
1	Original draft	G. Sanders	10/01/2005
1.1	Added documentation	G. Sanders	12/06/2005

### Purpose

The purpose of this SOP is to identify the different reports required by cooperators and outline the content standards.

Annual Reports: Principal investigators must submit a draft annual report to the designated NPS project manager. All appropriate comments from draft report reviews should be addressed and incorporated during the preparation of the final annual report – and must be approved by the NPS project manager before accepting the final report.

Final Reports: At the completion of a project, the investigator must submit a draft final report to the designated NPS project manager who will review the manuscript and may also seek additional comments from NPS regional staff, park personnel, and scientists well versed in the subject matter to ensure the technical quality and accuracy of information. All appropriate comments from draft final report reviews should be addressed and incorporated during the preparation of the final report – and must be approved by the NPS project manager before accepting the final report.

### Procedures and General Requirements

All reports must include the following:

Hard Copy: Submit two (2) hard copies of the report to the Network Project Leader.

Electronic copy: Submit electronic copy in MS Word (version 2002 or higher) on cd or dvd, to the NCRN Inventory and Monitoring Coordinator or Project Leader.

Submit all other data as outlined in SOP Product Specification.

Format for reports should follow:

- *Title Page* – Should include: title, parks, study dates, report date, authors, and other credits (contract numbers etc.) as appropriate. Also include complete current mailing address (including zip + four), email, phone and fax number of the person to whom correspondence should be sent.

**\*\*Final Reports Only\*\***

The title page should also include a 'TIC' Number which is an NPS assigned cataloging number. Prior to the submission of the final report, inform the NPS Project Leader and they will obtain the number and provide it to you.

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- *Report Checklist* - Use the checklist (Table 1) to make sure every section has been completed. Submit the completed checklist after the Title Page of the report.
- *Abstracts* - the third page should be an abstract that does not exceed 5% of the length of the paper. The abstract should explain the purpose of the study, describe the principal findings, and state the main conclusions. Many readers will rely heavily on the abstract, so it should be as descriptive as possible. Avoid uninformative sentences such as "The significance of these results is discussed." Generally, quantitative results (e.g., sample sizes, P-values) are unnecessary in abstracts and can be summarized in narrative fashion.
- *Keywords* - Below the abstract, provide 5-6 keywords that describe the subject of the paper; these need not duplicate words in the title.
- *Introduction* – Should include the hypotheses and purpose of the investigation, research objectives, conditions under which the study was conducted, the general plan of treatment of the subject, and summary of previous work (literature review) that relates to the project.
- *Study Area* – describe the area(s) and habitat(s) included in the study. A map can be used in this section to aid in defining the study area.
- *Sample Design* – describe the overall sampling design and explain how the sample locations were chosen.
- *Sample Locations* – include locations in the sampling design as well as any incidental locations (presented as GIS maps).
- *Methods* – Present a detailed explanation of the methods, materials and analytical techniques that were used in the field, laboratory, and office during the study. The methods should be documented so that the investigation could be exactly repeated if necessary. Be sure to include a description of data analysis methods and what statistical tests were used, if any. Describe the processes used for determining whether the data met data quality objectives and, if not, what corrective actions were taken. Detailed QA/QC procedures for the data collection, verification and validation should be placed in an appendix.
- *Results* – In a logical sequence (e.g. by park), present the findings of the study that either support or provide contrary evidence against the hypotheses or that answer questions posed in the introduction. Basic, descriptive statistics (sample size, mean, max/min, trends etc.) are appropriate when clearly presented. Avoid highly technical discussions of complex statistical testing; instead refer readers to a separate appendix for additional information. Consider presenting results separately for each park.
- *Discussion* – The "Discussion" and the "Conclusion" sections are the most important sections of the report. Present a clear interpretation of the data that addresses the hypotheses, objectives, or purpose for which the study was conducted. Be sure to include how this research is applicable to each park where the study occurred and to other studies that have been conducted in that specific area of research. Other findings may be reported that would be of general interest to the scientific community.
- *Conclusions* – Provide a specific and detailed summation of the conclusions of the project.

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In addition the conclusion section should have three subsections that are of significant interest to the parks.

- Public Interest Highlights: This section has significant potential to create interest and support for this and other resource management projects. Provide a bulleted list of highlights from this project. Resource managers may use these as talking points with other park staff including management. Interpretation staff may use these to highlight aspects of interest to the general public.
  - Management Recommendations: If management recommendations are warranted, highlight them here. If the study was initiated due to specific park management needs, management implications should be emphasized and discussed.
  - Research Recommendations: Summarize additional research needs. This section may serve as a way to develop priority research projects for the parks and to support future funding.
- *Literature Cited* - List literature citations alphabetically by the first author's last name in a literature cited section following the acknowledgments. Literature cited entries should use a consistent format. Carefully double-check citations against citations in the text. See Attachment one for a style description and examples.
  - *Appendices* - Provide additional data as necessary, including a hard copy printout of the data contained in the electronic spreadsheet or database.
  - *Tables and Figures* - Tables and figures are to have complete but brief headings, and be numbered consecutively within the text.
  - *Additional Manuscript Information*

Print must be in upper- and lowercase letters and of good quality, and paragraphs must be clearly delineated. Large blank spaces (such as between sections) are to be avoided. The English and scientific names of a species should be given the first time it is mentioned. The scientific name should be in *italic*. Indicate which taxonomic classification is being followed (eg AOU for bird species).

Metric measurements must be given unless English measurements are clearly more appropriate, in which case metric equivalents must be given in parentheses.

Define all symbols, abbreviations, and acronyms, but minimize their use.

Statistical terms and other measures are to conform to *Scientific Style and Format: the CBE Manual for Authors, Editors, and Publishers*, sixth edition.

Spelling should follow the *Webster's Third International Dictionary*, and other style points should follow *The Chicago Manual of Style*, fifteenth edition.

Pages, including tables and figures, should be numbered.

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Manuscripts must be in English; U.S. rather than British spelling should be used. We encourage authors whose first language is not English to have a native English speaker edit the paper before submission.

**Table 1. Annual and Final Report Checklist.**

	Report Checklist
	Cover page lists all authors and addresses.
	Document has been reviewed for content, spelling and grammar.
	Abstract and keywords are provided on page three of final report.
	Body of document includes introduction, description of study area, methods, results, and discussion.
	Conclusion Section includes Public Interest Highlights.
	Conclusion Section includes Management Recommendations.
	Conclusion Section includes Research Recommendations.
	Tables, figures, maps, and illustrations have descriptive titles and are sequentially numbered.
	Document is supported by scientific literature.
	Literature Cited has been checked against the text.
	Submission Checklist
	Two hard copies are being submitted.
	Electronic copy is in MS Word Format (2002 or later) and is submitted on cd, zip, dvd, or sent by email as an attachment.
	Data is being submitted electronically in MS Excel or MS Access format.
	All raw data sheets have been submitted.
	Metadata is provided for all electronic databases (Data fields are defined and database structure is discussed).
	Metadata is provided for any GIS data (following FGDC standards)
	Metadata is provided for raw data sheets (may include field sheet instructions or other documentation that defines fields).
	Photographs have been submitted along with permission for their use in brochures, websites, or other published materials.
	Final Check
	Checklist has been reviewed and all items checked off before final submission. Indicate YES or NO.